

# PHYLLOSTACHYS BAMBUSOIDES (POACEAE: BAMBUSEAE) PREVIOUSLY UNREPORTED FROM LOUISIANA

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## ABSTRACT

*Phyllostachys bambusoides*, native of China, is reported from the floodplain of Thompson Creek, West Feliciana Parish, Louisiana. A key to Louisiana *Phyllostachys* and a description of the genus and species are included.

## RESUMEN

*Phyllostachys bambusoides*, nativo de China, se cita del llano inundado de Thompson Creek, West Feliciana Parish, Louisiana. Se incluye una clave para los *Phyllostachys* de Louisiana y una descripción de *P. bambusoides*.

*Phyllostachys bambusoides* Sieb. & Zucc., a native of China (McClure 1957), has been found growing outside cultivation in West Feliciana Parish. Hitchcock (1950) describes *P. bambusoides* as an exotic introduced through cultivation and persisting in areas with mild winter temperatures, but listed no distribution. *Phyllostachys bambusoides* has previously been reported to occur in cultivation for Texas (Jones et al. 1997), but has not been reported from Louisiana (Allen 1992; Thomas & Allen 1993).

### **Phyllostachys** Sieb. & Zucc.

Perennial with extensive rhizomes. *Culms* straight and stiffly erect; thick hallow, glabrous, and **D**-shaped in cross section; culms branching freely from the middle and upper nodes, with usually 2 unequal branches at each node, sometimes a third smaller one. *Culm sheaths* deciduous and subcoriaceous. *Leaves* 1–7 per branchlet; sheaths ciliate along one side; ligules a short ciliolate membrane; blades flat, tessellate, lanceolate, abruptly acuminate, base round and connected to a short flattened pseudopetiole. *Pseudospikelets* numerous, often with small rigid bracts at their bases, spikelet concealed by inflated external, coriaceous bract; bract bearing reduced leaf blade, glabrous but with



ciliate margin. *Spikelet* florets 1-2; glumes 2(1), lanceolate; lemmas similar to glumes; palea bilobed at apex.

“The characteristics most generally useful in the identification of bamboo species (once the genus is known) are found in the culm sheaths that clothe the young shoot. These characteristics reveal themselves most vividly while the sheaths are in a fresh state. As they dry, their delicate, often very distinctive colors fade to light or dark straw, though any spots of dark pigment usually persist. The tissues shrink and sometimes become more or less warped, and some of the delicate parts, such as the auricles and the ligule, become brittle and easily broken when dry.” (McClure 1957). When collecting culm sheaths, carefully remove several samples along the length of the culm. *Phyllostachys bambusoides* is easily distinguished from *P. aurea* using the following key modified from McClure (1957). This key must be used in the spring when the young shoots are actively growing and the culm sheaths are still present.

#### A KEY TO PHYLLOSTACHYS IN LOUISIANA

- Auricles and well developed oral setae present on the upper culm sheaths (the lowermost culm sheaths usually without auricles); culms 6-22 m tall; base of culm 5-15 cm in diameter. \_\_\_\_\_ ***Phyllostachys bambusoides*** Sieb. & Zucc.
- Auricles and oral setae absent on the upper culm sheaths (rudiments do not appear); culms 3-10 m tall; base of culm 1-5 cm in diameter. \_\_\_\_\_ ***Phyllostachys aurea*** E. Carr. ex A. Riv. & C. Riv.

#### ***Phyllostachys aurea*** E. Carr. ex A. Riv. & C. Riv.

*Culms* 3-10 m, straight and stiffly erect; base of culms 1-5 cm in diameter; thick hollow, glabrous, D-shaped in cross section; green, visibly to strongly glaucous soon after sheath fall, becoming green to yellowish green when mature; culms branching freely from the middle and upper nodes, usually with 2 unequal branches at each node, sometimes a third branch also present. *Culm sheaths* deciduous, subcoriaceous, pale olive green to pale rosy buff, with burgundy or pale-green veins, rather sparsely strewn with small brown spots, not glaucous, glabrous except for a line of minute white hairs along the base. Auricles and oral setae absent. Ligules short, apex slightly convex or rarely slightly concave and ciliate on the margin in the lower several sheaths; slightly longer and long ciliate to fimbriate on the margin in mid-culms sheaths. *Culm sheath blades* subulate to lanceolate, more or less crinkled below, becoming long, narrowly strap-shaped and pendulous above. *Leaves* leaf sheaths 2.5-3.5 cm long, ciliate along one side, with auricles and oral setae well-developed (occasionally absent), conspicuous in spring when leaves are young; ligules a short ciliate membrane; leaf blades flat, tessellate, 4-12 cm long, 5-16 mm wide, lanceolate, abruptly acuminate, base round to a short flattened pseudopetiole, pseudopetiole 2-4 mm long, glabrous or glabrescent, margins scabrous; 1-7 leaves per branchlet. *Pseudospikelets* numerous, ascending and overlapping, 35-50



cm long, often with small rigid bracts at their bases, spikelet concealed by inflated external, coriaceous, bract ca. 22 mm long, bearing reduced leaf blade, glabrous, ciliate margins. Spikelets 1-several in each pseudospikelet. *Spikelet* florets 1-2; glumes 2(-1), lanceolate; lemmas similar to glumes, ca. 19 mm long, glabrous with a stiff awn tip, palea ca. 15 mm long, glabrous, bilobed at apex, not keeled. Native to southern China.

***Phyllostachys bambusoides* Sieb. & Zucc.**

*Culms* 6-22 m, straight and stiffly erect; base of culms 5-15 cm in diameter; thick hollow, glabrous, D-shaped in cross section; not glaucous at culm sheath fall, green, golden yellow or golden yellow with a variable amount of green striping; culms branching freely from the middle and upper nodes, usually with 2 unequal branches at each node, sometimes a third branch also present. *Culm sheaths* deciduous, subcoriaceous, greenish to ruddy buff, more or less densely spotted throughout with dark brown spots; the lowest several culm sheaths usually without auricles and oral setae, but the rest bearing two (rarely one) auricles; auricles conspicuous, narrow to broadly ovate or falcate (more or less staghorn in shape), conspicuously fringed with several greenish crinkled bristles (oral setae). Ligules well-developed, the apex more or less strongly convex with ciliolate margins in smaller culms to truncate and ciliate with coarse bristles in older culms. *Culm sheath blades* short, lanceolate, reflexed, and crinkled in lower sheaths to strap shaped and recurved in the upper ones; green or colored with burgundy, green and cream stripes to 9 cm long. *Leaves* 1-7 leaves per branchlet. Leaf sheaths 5.2-25 mm long, ciliate along one side, auricles, when present, conspicuous, with oral setae well developed (occasionally absent), oral setae conspicuous in spring when leaves are young; ligules convex, a short ciliolate membrane; glabrous, ciliate along one margin; leaf blades flat, tessellate, 10-15 cm long, 15-20 mm wide, lanceolate, abruptly acuminate, base round to a short flattened pseudopetiole; adaxially glabrous, abaxially glaucous, densely spinulose scabrous on the basal portion of mid-vein, scabrous along one margin of blade. Pseudopetiole 3-5 mm long. *Pseudospikelets* numerous, 1-several per node on leafy or leafless branchlets; ascending and overlapping, 40-80 cm long, often with small rigid bracts at their bases, spikelet concealed by inflated external, coriaceous, bract 10-40 mm long, bearing reduced leaf blade. Spikelets 2-5 in each pseudospikelet. *Spikelet* florets 1-2; glumes 2, lanceolate ca. 17 mm long; lemmas similar to glumes, 18-22 mm long, densely pubescent, ciliate margins, palea 17-20 mm long, bilobed at apex, keeled, 3-veins between the keel, 3-5 veins along margin, keels pubescent. Native to Japan and mainland China, extending westwards to the Himalayan Mountains.

In Louisiana, *Phyllostachys bambusoides* was observed growing aggressively in sandy, alluvial soils, out of cultivation, among riparian hardwoods, and covering



an area of ca. 0.5 ha. A random sampling (n=9) of culm DBH yielded a mean of 6.6 cm ranging to 12.25 cm with an estimated mean culm height of 9 m.

Voucher specimens: **LOUISIANA. West Feliciana Parish:** W of the town of Jackson, N of Hwy. 10 on the west bank of Thompson Creek, in deep alluvial sands with *Platanus occidentalis*, *Betula nigra*, *Quercus phellos*, *Salix nigra*, and *Smilax rotundifolia*, 30 Apr 2000, *Rosen 1098*, det. J.K. Wipff (BRCH, jkw-pers. herb., NLU, SAT, and NO).

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